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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/561,383

11/26/2007

Stefan Gustavsson

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08/27/2010

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EXAMINER

OPSASNICK, MICHAEL N

ART UNIT

PAPER NUMBER

2626

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/561,383	<b>Applicant(s)</b> GUSTAVSSON, STEFAN	
	<b>Examiner</b> MICHAEL N. OPSASNICK	<b>Art Unit</b> 2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8/18/2010 has been entered.

### ***Claim Rejections - 35 USC § 101***

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 20-23,25,26 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 20-23,25,26 are directed to the calculation of sound signals which does not fall into one of the enumerated four categories of patent eligible subject matter recited in 35 U.S.C. 101 (process, machine, manufacture, or composition of matter).

Claims 20-23,25,26 are not directed toward:

Art Unit: 2626

1) a process/method (nothing is processed/transformed, the claim limitations pertain to a calculation of sound signals; a statutory "process" under 35 USC 101 must (a) be tied to another statutory category (such as a manufacture or a machine), or (b) transform underlying subject matter (such as an article or material) to a different state or thing. Claims 20-23,25,26 neither transform underlying subject matter nor positively recite structure associated with another statutory category, and therefore do not define a statutory process. Although claim 20 mentions a microphone system, its functionality is descriptive in nature and the step itself pertains to the receiving of a sound signal, which can be in digital form, as disclosed by the specification (that is, no transformation is being claimed)

2) a machine - there are no claim elements towards an appropriate active apparatus, e.g. the elements of a device that would perform the claim steps.

3) a manufacture (no claim elements pertain to an output product nor a

4) a composition of matter

Furthermore, claims 20-23,25,26 do not perform an underlying transformation of the underlying state to a different state or thing. If the acts of a claimed process manipulate only numbers, abstract concepts or ideas, or signals representing any of the foregoing, the acts are not being applied to appropriate subject matter (Benson, 409 U.S. at 71-72, 175, USPQ at 676). Furthermore, claims define nonstatutory processes if they simply manipulate abstract ideas (Warmerdam, 33 F.3d at 1360,31 USPQ2d at 1759).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wakisaka et al (5917944) in further view of Mahieux et al (5848170).

As per claims 1,16,17 Wakisaka et al (5917944) teaches a device detecting voice activity using multiple microphones and generating a signal in response to sounds/speech (Fig. 8, subblocks 802,803; col. 12 lines 31-45; Wakisaka teaches the use of multiple multi-directional microphones wherein the number of microphones used is not limited); as processing the signals for a particular desired voice (col. 12 lines 33-35) and for background noise (col. 12 lines 35-38); Wakisaka et al (5917944) implies directionality and associated cone of detection (well known in the art of directional microphones), but does not detail the exact microphonic setup, however, Mahieux et al (5848170) teaches a microphonic array with a display (Fig. 2b, 3a). Therefore, it would have been obvious to one of ordinary skill in the art of microphone related displays at the time the invention was made to modify the teachings of Wakisaka et al (5917944) with a coplanar microphone array because it would advantageously improve upon the sensing ability into a display monitor (Mahieux et al (5848170), col. 2 line 53- col. 3 line 55).

As per claims 2-11, the combination of Wakisaka et al (5917944) in view of Mahieux et al (5848170) teaches a microphone array (3 or more microphones, Mahieux, Fig. 2b,3a) with directionality pointed to sounds (Wakisaka, col. 12 lines 33-38), defining a cone angle (Mahieux, col. 7 lines 5-61; with the calculated cone angle being 25 degrees +/-, as well as 80 degree angle - col. 5 lines 46-67).

As per claims 12-15,18,19, the combination of Wakisaka et al (5917944) in view of Mahieux et al (5848170) teaches a handheld device. (Wakisaka et al (5917944),Fig. 6b, 6a; col. 10 lines 66 –67; col. 15 lines 10-24), with microphones on the edges (Fig. 2b,3a).

Claims 20-23,25,26 are method claims that contain steps that are performed by the apparatus as detailed in claims 1-11 above; therefore the claim scope of claims 20-23,25,26 are similar in scope and content of claims 1-11 and as such, claims 20-23,25,26 are rejected under similar rationale as presented against claims 1-11 above.

As per claim 24, the combination of Wakisaka et al (5917944) in view of Mahieux et al (5848170) teaches the directional sound source dependent upon sound speed, distance d (Mahieux - col. 7 lines 5-50).

Art Unit: 2626

*Response to Arguments*

6. Applicant's arguments filed 8/18/2010 have been fully considered but they are not persuasive. As per applicants arguments that the Wakisaka reference does not teach distinguishment of speech versus non-speech based upon directionality, examiner disagrees and notes that in the previously mentioned background/speech processing of Wakisaka, Wakisaka further explains in col. 17 lines 22-37 that a dedicated mutlidirectional microphone is used to process sounds that is "other than the target voice" and a directional microphone to process the target voice (in other words, the directional microphone is used for speech recognition, and the multidirectional microphone is used to process other sounds (and not speech recognition)), and hence, Wakisaka meets the current claim scope.

*Conclusion*

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Opsasnick, telephone number (571)272-7623, who is available Tuesday-Thursday, 9am-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Richemond Dorvil, can be reached at (571)272-7602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Michael N. Opsasnick/  
Primary Examiner, Art Unit 2626  
08/26/2010